Indiana Course-Aligned Assessment
Pre-Calculus – Sample Items

1. Convert the rectangular coordinates $(3\sqrt{3}, -3)$ into polar coordinates.

   A $\left(6, \frac{\pi}{3}\right)$

   B $\left(6, -\frac{\pi}{6}\right)$

   C $\left(6, -\frac{\pi}{3}\right)$

   D $\left(-6, \frac{\pi}{6}\right)$

2. Find the area of triangle *LMN* if *LM* = 12 centimeters, *MN* = 5 centimeters, and the measure of angle *LMN* = 32°.

   A 10.60 cm^2

   B 15.90 cm^2

   C 25.44 cm^2

   D 30.57 cm^2

3. Describe the transformations that must occur to obtain the graph of $y = \cos(2x - 7)$ from the graph of $y = \cos(x)$.

Answer Key

Item	Answer	Alignment
1	B	PC.6.1
2	B	PC.3.3
3	Period change from 2π to π and phase shift right of $^{7}/_{2}$	PC.4.7